



Keeping terrorists from putting us in the dark

April 1, 2013



While there is potential that terrorists could target the nation's electric grid, Los Alamos scientists are minimizing that risk through the application of quantum cryptography. A successful, realistic demonstration of the new technology recently took place within the Trustworthy Cyber Infrastructure for the Power Grid project operated by the University of Illinois.

Due to the principles of physics, attempts to intercept quantum-encrypted data are readily apparent. This is important because, to keep the electric infrastructure humming, information is constantly passed between generators, substations and control centers. Strengthening and securing these transmissions deter anyone who wants interfere with the electrical grid. The Lab's work also leverages hardware, software and standard communication protocols already in wide use within the energy sector.

This work helps protect the electrical infrastructure against attack. But, should there be a disaster like Hurricane Katrina or Sandy, quantum cryptology can provide accurate and timely information on the condition of the grid, ensuring it is restored quickly.

The cutting-edge work has led to 23 U.S. and foreign patent applications. As a result, the Lab's Technology Transfer Division is receiving inquiries from companies within the electric-grid control industry and plans to hold a workshop later this year for possible licensing opportunities.

The work took place with help from the University of Illinois Urbana-Champaign and the Department of Energy's Cyber Security for Energy Delivery Systems program within the Office of Electricity Delivery and Energy Reliability.

To read more about why this work is so important to the nation, read *Terrorism and the Electric Power Delivery System*.

You can view the Lab's news release on quantum cryptography here: <http://www.lanl.gov/newsroom/news-releases/2013/February/02.13-quantum-cryptography.php>.

Los Alamos National Laboratory

www.lanl.gov

(505) 667-7000

Los Alamos, NM

Operated by Los Alamos National Security, LLC for the Department of Energy's NNSA

